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ABSTRACT

This EE (Environmental Education) Toolbox resource is the script for a slide show designed for use in EE workshops with classroom teachers. It provides an introduction and overview of EE organized around six topic modules: overview, benefits, questions, case study, resources, and summary. (MKR)

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ED 373 982

The Environmental Education Toolbox

Slide Resource Kit

Script Environmental Education in Schools

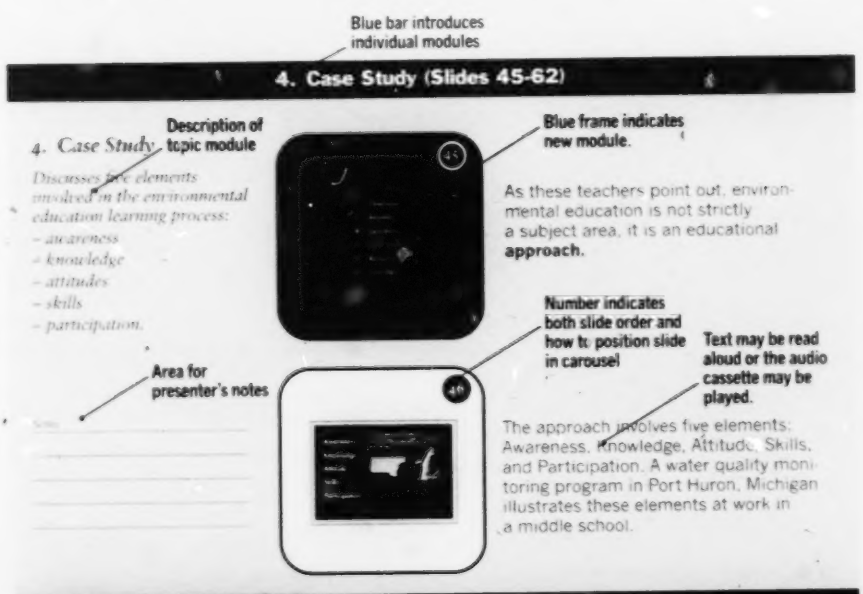
Introduction

The script and slides are organized around six topic modules: Overview, Benefits, Questions, Case Study, Resources and Summary. Blue slide mounts indicate slides that begin new topics. Slides are located in plastic sleeves in your kit binder.

The script may be read aloud or a narrated version is available on the audio cassette tape included on the inside cover of your binder.

The text to be read aloud is featured in the right column next to the accompanying slide. The italicized text in the left margin is not intended to be read aloud, but instead provides you with a brief summary of each of the six topic modules.

The diagram below explains how to use the script.


Blue bar introduces individual modules
4. Case Study (Slides 45-62)
Description of topic module
4. Case Study
Discusses five elements involved in the environmental education learning process:
– awareness
– knowledge
– attitudes
– skills
– participation.
Blue frame indicates new module.
45
As these teachers point out, environmental education is not strictly a subject area, it is an educational approach.
Number indicates both slide order and how to position slide in carousel
Text may be read aloud or the audio cassette may be played.
Area for presenter's notes
Notes
46
The approach involves five elements: Awareness, Knowledge, Attitude, Skills, and Participation. A water quality monitoring program in Port Huron, Michigan illustrates these elements at work in a middle school.

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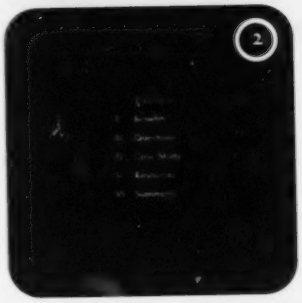
1. Overview

Provides a broad view of environmental education based on the premise that social issues and environmental issues are interrelated. Suggests that environmental education should:

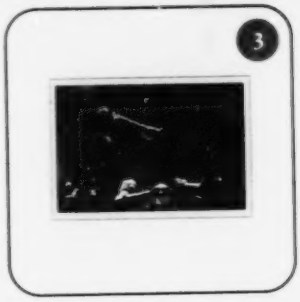
- *involve education about social, political, and economic systems as well as science education;*
- *emphasize built as well as natural environments;*
- *consider the needs and interests of diverse communities: urban, rural, and suburban.*

Notes

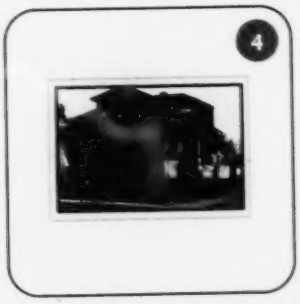
Environmental education is key to preparing students for the environmental problems their generation will face. It is also an important approach to challenges facing our formal education system today.



This slide show highlights the benefits of environmental education and answers common questions. We will also look at a case study and suggest additional resources. But first, what is environmental education?



Elementary-aged children experiencing the smell and feel of a garden is environmental education.



So is a group of inner city high school students organizing their neighborhood to renovate abandoned buildings.

Middle school students role playing a chemical company's efforts to meet water quality standards.

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North American elementary students exchanging essays on forests with Costa Rican pen pals.

7

Or, students meeting with city officials to understand a local transportation problem.

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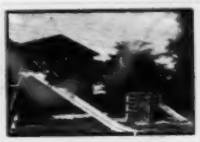

The environment can be a city park.

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. . . or an industrial park.

10

It can be an agricultural area, suburban household, city street, or wetland.

11

As these examples suggest, environmental education is not only about the **natural** environment, it is also about the **built** environments that people create.

12

Traditionally, science has been the key discipline for learning about the environment.

13

However, teachers of all subject areas can bring environmental education into their classrooms.

14

Environmental topics can supplement existing courses or even shape a cross-disciplinary curriculum for an entire school or district.

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2. Benefits (Slides 15-31)

2. *Benefits*

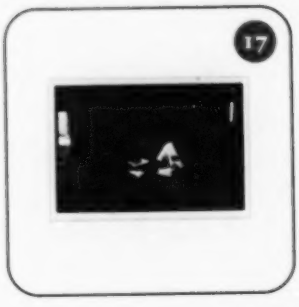
Suggests that environmental education is a vehicle for education reform. Environmental education can address educational as well as environmental challenges by stressing:

- *relevance to the learner,*
- *interdisciplinary learning,*
- *school-community links.*

Notes

Environmental education aims to address not only environmental problems, but educational problems as well.

Schools are under pressure to prepare students for life in an increasingly complex world.



Educators grapple with multiple challenges, trying to maintain student interest, to prepare students for a rapidly changing job market, and to provide quality education despite limited time and financial resources.

Environmental education can help schools meet these educational objectives. In short, environmental education is a path for education reform.

Like education reform, environmental education stresses relevance to the learner, promotes interdisciplinary learning, and links schools and communities.

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Environmental education stresses **relevance.** It addresses the needs and interests of each learner in the context of gender, ethnicity, and economic status.

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For suburban elementary students, this may mean exploring how their own backyards provide wildlife habitat.

22

For a middle school student from a low income, inner city neighborhood, it may mean transforming a vacant lot into a community garden.

23

For high school students living near a landfill, it may mean exploring environmental, economic, and political aspects of landfill disposal through role plays.

24

Environmental education can help to **integrate subject areas,** enabling students to transfer skills. An interdisciplinary approach to helping rural students learn about pesticides might entail the following:

25

In social studies, interviewing retired farmers about the practice of agriculture in their generation.

26

In biology, learning about ecological alternatives to chemical pest management.

27

In math, comparing the relative costs of chemical versus ecological pest controls.

28

And in English, writing and speaking persuasively about integrated pest management to community members.

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Environmental education is ideal for helping individuals **build bridges** between schools and communities, both local and global.

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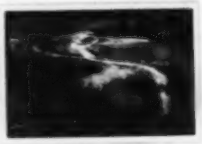

Students involved in a wetland stewardship project might invite a county government employee to discuss local watershed management. Students might then create a display to educate business and neighborhood groups about the value of wetlands.

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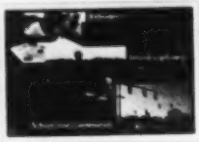

Relevance to the learner, interdisciplinary learning, and school-community links are important ways that environmental education can benefit schools and students.

3. *Questions*

Presents teachers' responses to the following questions about bringing environmental education into the classroom:

- *What if . . . I have no background in environmental science?*
- *What if . . . there is not enough time in the day for environmental education?*
- *What if . . . environmental problems are too depressing for my students?*

Notes

But how can educators put environmental education into practice? Here are teachers' responses to three frequently asked questions.

What if I have no background in environmental science?

You don't need to be an environmental expert to teach environmental education. The skills students learn when they investigate problems and take action on environmental issues help them achieve learner outcomes in any subject.

Most importantly, you don't have to know everything. You might team up with other teachers or bring local community experts into the classroom to supplement your own expertise.

John Scheer, a teacher certified in social studies and language arts, designed and now teaches a course on environmental issues. He observes: *"I never let not knowing stop me. I focus on student interests, even if it means teaching a course I'm not comfortable with. I simply learn right along with my students. I tell them up front that I don't have the answers to everything."*

37

What if there is not enough time in the day for environmental education?

38

Environmental education does not have to burden an already crowded curriculum. Environmental examples and activities can be used to teach core curriculum concepts.

39

Seventh graders in Lynn Kelly's math class collect and use data from a local study of bald eagles. Lynn Kelly observes:

40

"The kids usually don't know why a percentage or ratio is helpful, they just memorize the formula. By talking about eagles or buffalo, these math concepts have a context and finally become relevant."

41

What if environmental problems are too depressing for my students?

42

Above all, environmental education can and should be hopeful! Environmental education has been criticized for trying to frighten students into action. But scare tactics can have devastating and paralyzing effects on children.

43

Instead, environmental education should provide students with a sense of accomplishment. Jerry Christy, a curriculum coordinator in Georgia, discovered that motivation increases when students apply new skills to environmental problems:

44

"Once the environmental curriculum was developed and I began working with kids, the motivation became self-generating. I had never seen students get so involved and committed in their efforts. I realized that the difference in this case was the involvement of their emotions. They were very anxious to take action."

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4. Case Study (Slides 45-62)

4. *Case Study*

Discusses five elements of the environmental education learning process:

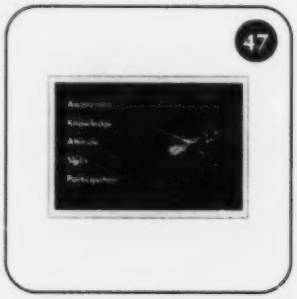
- *awareness,*
- *knowledge,*
- *attitudes,*
- *skills,*
- *participation.*

A case study of middle school students in Port Huron, Michigan who participate in a water quality monitoring program illustrates the learning process.

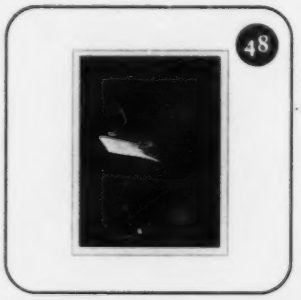
Notes

As these teachers point out, environmental education is not strictly a subject area, it is an educational approach.

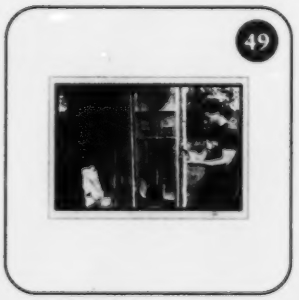
The approach involves five elements: **awareness, knowledge, attitude, skills,** and **participation.** A water quality monitoring program in Port Huron, Michigan illustrates these elements at work in a middle school.



Environmental education seeks to build both sensory **awareness** as well as **awareness** of environmental issues.



In Port Huron's water quality monitoring program, students explored the Black River environment firsthand. This affective domain of sensing and feeling is an important part of learning to care for the environment.



Another type of **awareness** is issue-related. Students in Port Huron discussed the effects of human behavior on the environment, including how their families' disposal of household products can degrade water quality.

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The teachers in Port Huron also focused on the cognitive domain. Assignments increased students' **knowledge** about land use and the hydrologic cycle.

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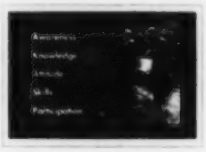

Students' **attitudes** toward the river changed. They became increasingly concerned for the river's well-being and for the well-being of the people who depend on the river.

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Ed Isaacs spoke to students passionately about the problems chemically contaminated water created for the residents of Walpole Island, a Native American community located downstream from Port Huron.

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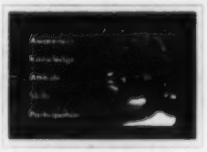

In the process, students acquired a variety of new **skills**. They learned to analyze water quality,

54

. . . to make telephone calls to professional resource managers.

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. . . and to present information to their fellow students. They developed skills in communication, critical thinking, values clarification, and decision-making.

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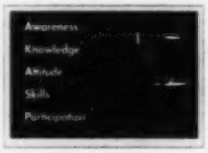

Ultimately, environmental education aims for students to apply their knowledge, skills, and commitment. Opportunities to **participate** are limitless.

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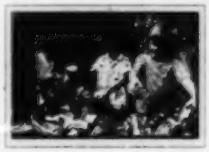

Elementary students might look at their personal use of natural resources.

58

Or they might help design and landscape the school grounds.

59

In Port Huron, teachers arranged for a local outing club to donate kayaks for an afternoon.

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During a one-hour trip, students discovered gasoline seeping into the Black River from soil along the bank. They alerted state regulatory officials.

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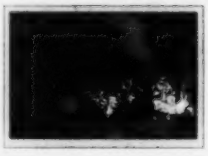

As a result, the officials visited the site and discovered a leak in a nearby filling station's underground storage tank. The site is now being cleaned.

62

This student action reduced pollutants entering the Black River, benefited nearby residents who had complained of odors for years, and increased students' self-confidence.

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5. Resources (Slides 63-69)

5. Resources

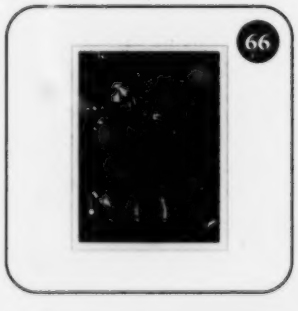
Provides a brief description of various resources that can help teachers get started.

Notes

The teachers in Port Huron did not do everything by themselves. There are a variety of resources to help educators get started. Here are just a few possibilities:

There are a wealth of other teachers in your state who are active environmental educators.

Most states have an environmental education association that can provide materials, trainings, and opportunities to meet other educators.



Natural resource agency personnel often make presentations and can be excellent sources for curricular materials.

Workshops can be great opportunities for networking and, in many states, educators receive stipends, continuing education units, or university credit for attending.

Local nature centers and non-profit organizations frequently offer programs, curricular materials, and staff who visit schools.

And an employee of a local utility, manufacturing plant, or other businesses and industries might be willing to lead a tour of the facilities.

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6. Summary (Slides 70-80)

6. *Summary*

Emphasizes the role of schools in enabling students to become caring, skilled, and active participants in environmental decision-making.

Notes

If it appears that the scope of environmental education is broad. . . it is!

Educators have a crucial leadership role to play.

You can help students understand that they are important citizens of local and global communities – that the quality of life and the environment depends on their commitment to active, responsible citizenship.

In turn, the excitement with which students respond to environmental education can be energizing.

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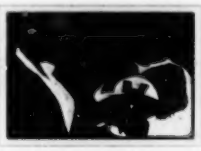

Teachers and students alike will discover new talents, as they work together to improve the quality of both the environment and the educational experience.

75

In the words of Rachel Carson: "*If a child is to keep alive his inborn sense of wonder, he needs the companionship of at least one adult who can share it, rediscovering with him the joy, excitement and mystery of the world we live in.*"

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(silence)

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